

REMARKS

After entry of this Amendment, claims 6, 7, 10-16, 19, 20, 22-25, 27 and 28 will remain in this case.

Based upon the Examiner's restriction requirement, applicant has canceled claims 29-56.

The cancellation of claim 29-56 has obviated the objection to the drawings as not showing a blocking element designed with a braid arrangement.

Paragraph 0036 has been amended in response to the Examiner's objection.

Claim 19 was objected to because of an informality. Appropriate correction has been made.

Double Patenting

Claims 6, 7, 10-13, 15, 16, 19, 20, 22, 23, 25, 28 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-13, 15 and 16 of U.S. Patent No. 6,669,260 in view of Solano et al. (US 4,921,478).

Claims 6, 7, 10-16, 19, 20, 22-25 and 28 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-9 of U.S. Patent No. 6,238,412 in view of Solano et al. (US 4,921,478).

For purposes of expediting prosecution in this case, applicant forwards and appropriate terminal disclaimer obviating the obviousness-type double patenting rejections.

Claim Rejections Under 35 USC §102

Claims 6, 7, 10-16, 19, 20, 22-25, 27, 28 and 51 are rejected under 35 U.S.C. 102(b) as being anticipated by Solano et al. (US 4,921,478).

The Cited Art

The patent to Solano discloses an angioplasty system for treatment of cerebral arteries. Devices include an occluder component 10 and an interventional component 12. (4/26-29) Occluder component 10 includes inner and outer shafts 22, 24 secured at the distal ends and defining an inflation lumen 26 therebetween. (4/48-54) A balloon 16 is carried on the distal end of occlusion component 10. (4/30-32) Balloon 16 is expanded to occlude the blood vessel by the passage of a fluid or gas under pressure through inflation lumen 26 and into the balloon. (5/32-35) The distal end of outer shaft 24 is slit at 27 to create a number of struts 28. (5/37-47) Pulling the inner shaft 22 causes the struts 28 to be deflected as shown in figures 5A-5C, 6A-6D and 10A-10B.

The Cited Art Distinguished

Independent apparatus claim 10 has been amended to recite that the blood flow blocking element is a balloon-less blood flow blocking element and that the actuator acts without the use of a fluid-inflatable balloon. In contrast, Solano, in each embodiment, uses a balloon to create the fluid flow blocking element. The use of a balloon, as in Solano, creates a number of disadvantages, including the following.

1. Balloons often take substantial lengths of time, measured in minutes, to inflate and deflate. In contrast, applicant's balloon-less blood flow blocking element can act substantially instantaneously.
2. Balloons may require complicated CO₂ gas dispensers to operate. In contrast, applicant's balloon-less blood flow blocking element can typically be actuated using a simple pull wire.
3. Malone's can require larger insertion shaft diameters to accommodate the balloon. As stated at paragraph [0052] of the present application:

An important consideration of the invention described herein is that the support wire with its expanding element can be fabricated with a very small diameter. This is important because it allows an optimally large annular space between the wire and the inside of the catheter for maximum obstruction removal. Previous engaging elements have been used that use a balloon for the engaging element. This balloon design requires a larger shaft diameter than that of the present invention. Hence in these previous devices the annular space is not maximized as in the present invention.

Therefore, claim 10 is not anticipated by Solano.

It would not have been obvious to modify Solano to remove its balloon because doing so would make the resulting device ineffective as an occluder. Therefore, claim 10 is allowable over Solano alone or in view of the cited art.

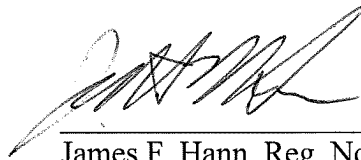
Independent apparatus claims 19 and 22 are allowable same reasons as claim 10.

Independent method claims 6, 15 and 25 are allowable for the same basic reasons as claim 10.

The dependent claims are directed to specific novel subfeatures of the invention and are allowable for that reason as well as by depending from novel parent claims.

In light of the above remarks and the amendments to the claims, applicant submits that the application is in condition for allowance and action to that end is urged. If the Examiner believes a telephone conference would aid the prosecution of this case in any way, please call the undersigned at (650) 712-0340.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'J. F. Hann', is written over a horizontal line.

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